



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
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Jeffrey W. Jacobs et al.) Group Art Unit: 1262
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Application No.: 09/738,859) Examiner: Taofiq A. Solola
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Filed: December 13, 2000) Confirmation No.: 9769
)
For: NOVEL SUCCINATE)
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COMPOUNDS, COMPOSITIONS)
)
AND METHODS OF USE AND)
)
PREPARATION)

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**REQUEST TO STAY PERIOD FOR RESPONSE PENDING DECISION ON
PETITION UNDER 37 C.F.R. §§ 1.144 AND 1.181 AND
CONDITIONAL REQUEST FOR CONTINUED EXAMINATION**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants hereby request that the period for response to the outstanding Office Action mailed on January 23, 2003, with a shortened statutory period for reply set to expire two months from the mailing date, be stayed pending a decision on the Petition from Requirement for Restriction under 37 C.F.R. §§1.144 and 1.181 filed by the Applicants on April 3, 2003. A three month Petition for Extension of time is being filed herewith extending the original period for response from March 23, 2003 until June 23, 2003.

Applicants timely filed the Petition from Requirement for Restriction on April 3, 2003, with a one month extension of time. Accordingly, Applicants believe that the period for response should properly be stayed pending the decision on the timely filed Petition, which, in a telephone call with the undersigned on June 19, 2003, William R. Dixon, Jr., Special Programs Examiner (703.308.3824), indicated is being acted upon favorably to the Applicants.

However, in an abundance of caution and in order to avoid possible inadvertent abandonment of the application, Applicants conditionally Request Continued Examination under 37 C.F.R. § 1.114 (RCE) and that the arguments presented herein be considered as the submission required under 37 C.F.R. § 1.114(c). Applicants' request is conditional in so far

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as a Request for Continued Examination is requested only if required to maintain pendency of the present application. The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

REQUEST FOR RECONSIDERATION ARGUMENTS

The above-identified application claims novel succinate compounds, pharmaceutical compositions comprising these compounds, and methods of treatment using these compounds. The application includes 162 examples of compounds synthesized, which are within the claims as originally filed.

The Examiner issued a final Office Action on January 23, 2003, closing prosecution on the merits and maintaining his dissection of claim 1 into compounds wherein a new group R_7 is $-C(O)NR_{14}R_{15}$, where R_{14} is a pyridine ring attached at the 2-position, Y is C, n is 2, and all references to heterocycles in R_1 to R_7 and R_{15} are deleted. It is from this final Office Action which Applicants petitioned the Commissioner and hereby request reconsideration.

Applicants request reconsideration on two points. First, Applicants maintain that the restriction requirement is improper. Applicants further respectfully assert that the Office Action as issued on January 23, 2003, was an improper *Ex parte Quayle* action with an improper two month statutory period for reply.

Restriction Requirement as Maintained is Improper

Applicants respectfully assert that the restriction requirement as maintained is improper.

Initially, Applicants respectfully assert that the original restriction requirement as set forth in the Office Action of April 8, 2002, was improper. The restriction requirement was in error because under the statute (35 U.S.C. § 121, MPEP 802 and 803), restriction is appropriate when two or more ***independent and distinct*** inventions are claimed in one application. As explained herein and in the response filed on June 10, 2002, traversing the restriction requirement, even though the Examiner asserted that the inventions of Groups I - VII as set forth were independent and distinct, each from the other because there was no patentable co-action among the various groups, Applicants asserted and continue to assert that there appeared to be direct overlap among the compounds of Groups I - VII; therefore, it was impossible to determine in which group a given compound belonged. Since there is direct overlap among the Groups as defined by the Examiner, the Groups do not define independent and distinct inventions. Specifically, Applicants argued and continue to argue that Groups I, II, V, and VI appear to overlap as follows:

Group I includes compounds of formula I, wherein **Y can be C, n is 2 or 3** and containing **benzodioxane** as a heterocyclic substituent;

Group II includes compounds of formula I wherein **Y is C, n is 2 or 3**, and containing **benzodioxane** as a heterocyclic substituent;

Group V includes compounds of formula I wherein **Y is C, n is 2 or 3**, and containing **benzodioxane** as a heterocyclic substituent; and

Group VI includes compounds of formula I wherein **Y is C, n can be 2**, and containing **benzodioxane** as a heterocyclic substituent.

As a further example, Applicants argued and continue to argue that Groups I and VII appear to overlap as follows:

Group I includes compounds of formula I, wherein **Y can be N, n can be 2** and containing **benzodioxane** as a heterocyclic substituent and

Group VII includes compounds of formula I wherein **Y is N, n is 2** and containing **benzodioxane** as a heterocyclic substituent.

Applicants maintained and continue to maintain that since there is direct overlap among the compounds of the different Groups, which the examiner has set forth, it is an improper restriction requirement.

Nevertheless, in order to comply with the requirements of 37 C.F.R. § 1.143, in the response filed on June 10, 2002, Applicants provisionally elected the compound of example 140. Applicants were unable to identify in which group the compound belonged or even if there was a group in which the compound belonged.

The Examiner issued a non-final office action on July 19, 2002, acknowledging election of the compound of example 140 with traversal but deeming the previous restriction proper and making it final. The Examiner indicated that the compound of example 140 did not fall within any of his previously set forth groups and indicated that the claims would be allowable if amended to recite a compound of Formula (I), wherein a new group R_7' (instead of R_7 as Applicants had drafted the claim) was defined by the Examiner as $-C(O)NR_{14}R_{15}$, where R_{14} is a pyridine ring attached at the 2-position, Y was to be limited to C, n was to be limited to 2, and all references to heterocycles in R_1 to R_7 and R_{15} were to be deleted.

The application was personally interviewed with Examiner Solola on October 10, 2002; however, an agreement as to permissible claim scope was not reached.

Maintaining their traversal of the restriction requirement, in a response filed on December 18, 2002, Applicants amended the pending claims merely to further prosecution.

Applicants amended the claims to define that the ring formed by N and (Y) is a pyrrolidinyl, namely n is two and Y is $-\text{CH}_2-$. Accordingly, Applicants amended the claims to recite a compound of Formula (I) that has a common backbone that includes a hydroxamic acid functionality at one terminus of the backbone linked by succinate functionality to a pyrrolidinyl ring at the other terminus. Applicants maintained and continue to maintain that the claimed compounds as amended clearly exhibit unity of invention and define a group of compounds that can be readily searched.

The Examiner issued a final Office Action on January 22, 2003, closing prosecution on the merits and maintaining his dissection of claim 1 into compounds with a new group R_7 is $-\text{C}(\text{O})\text{NR}_{14}\text{R}_{15}$, where R_{14} is a pyridine ring attached at the 2-position, Y is C, n is 2, and all references to heterocycles in R_1 to R_7 and R_{15} are deleted.

Applicants submit that the restriction requirement as maintained necessitates the dissection of Applicants' claim 1 into countless groups and, therefore, constitutes a refusal on the part of the Office to examine the claim that Applicants believe to best represent their invention. Applicants submit that it is improper for the Office to refuse to examine that which Applicants regard as their invention unless the subject matter of the claims lacks unity of invention. (MPEP 803.02). Unity of invention exists where compounds included within a Markush group (1) share a common utility and (2) share a substantial structural feature.

Specifically, in *In re Weber*, 580 F.2d 455, 198 USPQ 328 (CCPA 1978), the court articulated the general proposition that:

[A]n applicant has a right to have *each* claim examined on the merits. If an applicant submits a number of claims, it may well be that pursuant to a proper restriction requirement, those claims will be dispersed to a number of applications. Such action would not affect the right of the applicant eventually to have each of the claims examined in the form he considers to best define his invention. If, however, a single claim is required to be divided up and presented in several applications, that claim would never be considered on its merits. The totality of the resulting fragmentary claims would not necessarily be the equivalent of the original claim. Further, since the subgenera would be defined by the examiner rather than by the applicant, it is not inconceivable that a number of the fragments would not be described in the specification.

Id. at 331.

In view of the above and similar case law, the Patent Office has set forth a general policy regarding restriction of Markush-type claims in MPEP 803.02. According to the general policy as articulated in the MPEP, "since the decisions in *In re Weber*, 580 F.2d 455, 198 USPQ 328 (CCPA 1978) and *In re Haas*, 580 F.2d 461, 198 USPQ 334, it is *improper* for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. *In re Harnish*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984)." (MPEP 803.02, emphasis added). Unity of invention exists where compounds included within a Markush group (1) share a common utility and (2) share a substantial structural feature. (MPEP 803.02).

Accordingly, Applicants submit that it is improper for the Office to refuse to examine the presently claimed invention since the presently claimed subject matter clearly evidences unity of invention. With regard to a common utility, the compounds of the present invention are used for the treatment of a disease treatable by administration of a peptidyl deformylase inhibitor, in particular bacterial diseases. (Specification, page 6, lines 12-28; claims 47 and 48). With regard to a substantial structural feature, the compounds of the present invention all share a common backbone as defined by Formula (I), which includes a hydroxamic acid functionality at one terminus of the backbone linked by succinate functionality to a pyrrolidiny ring at the other terminus. This recited structure provides a common structural backbone that is a substantial structural feature. This common structural backbone can readily be searched without serious burden. Therefore, Applicants respectfully assert that a refusal on the part of the Office to examine the amended claim presented by Applicants is improper.

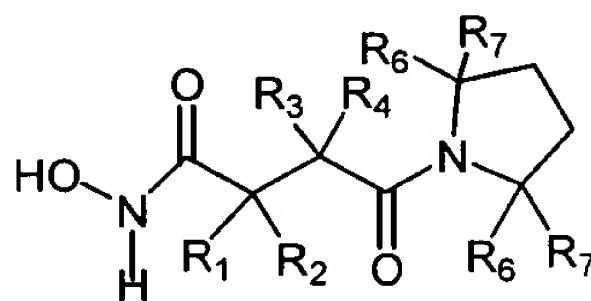
Furthermore, Applicants assert that even where a provisional election of a single species is proper prior to examination on the merits, following election the Markush-type claim will be examined fully with respect to the elected species and further to the extent necessary to determine patentability. (MPEP 803.02). The MPEP requires that should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim *will be extended* to non-elected species (plural). (Id.). The MPEP states that the search need not be extended unnecessarily to cover all non-elected species; however, the MPEP states that Applicant is entitled to consideration of claims to a *reasonable number of disclosed species* in addition to the elected species. (MPEP 809.02(b), emphasis added). Applicants disclosed 162 examples of compounds within claim 1 as originally defined. The

definition of compounds that the Examiner has defined and is willing to examine only includes two of Applicants disclosed 162 compounds (the compound of Example 102 and the compound of Example 140, which was the compound elected). Applicants respectfully submit that two compounds is *not* a reasonable number of disclosed species.

Furthermore, the invention as the Examiner has defined it comprises a substituent R₁₄ that is defined only as pyridin-2-yl. Accordingly, the Examiner has even omitted the compounds of Examples 58 and 59, which share the same structure as the Examiner has defined except at position R₁₄, one comprises a pyridin-3-yl (example 58) and the other comprises a pyridin-4-ylmethyl (example 59). Applicants respectfully submit that the class of compounds that the Examiner has defined is incredibly limited and as such, does not cover a reasonable number of species. Applicants further assert that this incredibly limited class of compounds is not what Applicants regard as their invention and it is *improper* for the Office to refuse to examine that which Applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. *In re Harnish*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984).” (MPEP 803.02, emphasis added).

Moreover, the Examiner states in the Office Action of January 23, 2003 that since the ring determines the class of each sub-group and the applicant is claiming numerous heterocyclic rings at position R₇, each representing different sub-groups of species, a search of the amended claim would be burdensome. However, the substituent at position R₇ is not part of the common backbone. Therefore, Applicants respectfully assert that the common backbone can be searched regardless of the substituent at position R₇.

In addition, in the Office Action of January 23, 2003, the Examiner alleges that “applicant further contends that the invention share substantial structural feature. This is not persuasive because structural representation is a choice of the applicant. It is not relevant to novelty because other applicants may present the same invention with different structural formulae.” Applicants respectfully assert that the above statement is incorrect. Applicants are claiming compounds, compounds with a particular backbone as defined by the structure:



The structural representation or how the structure is presented may be somewhat a matter of choice because the compounds could also be represented, for example, as the following structure:



However, both of these are the structures clearly represent the same compounds. It is not the structural representation that should be searched but the underlying structure and the underlying structure remains the same, and it is the structure of the claimed compounds that determines novelty. To say that a structure of a compound can possibly be drawn in different representations is a part of chemistry, but the different representations ultimately provide the same compound if it is in fact just a different representation of the same compound. In addition, although compounds may be drawn in different representations, these compounds ultimately have the same structural formulae. The structural formulae are what define the compounds. Therefore, it is also incorrect to say that other applicants can present the same invention with different structural formulae – if it is a different structural formulae, it is a different compound.

In addition, Applicants believe that it is important to note that the Patent Office commonly searches compounds as defined by a Formula that recites a structural backbone, wherein the backbone itself includes a heterocyclic or carbocyclic ring, and the backbone also has various substituents defined by generic indicators, such as an R groups, the definition of which includes more than a single heterocyclic or heteroaryl. In fact, Applicants did a cursory search and found numerous patents examined by Examiner Solola, which claimed a structure having various substituents defined by generic indicators, the definition of which included more than a single heterocyclic or heteroaryl. These patent numbers were listed in Appendix B of the Petition from Requirement for Restriction. Since these patents reciting a structure with the possibility of more than a single heterocyclic substituent issued, Applicants respectfully assert that it is possible to search compounds having more than a single heterocyclic substituent without serious burden and these searches are performed regularly. Accordingly, Applicants submit that it is inequitable and unjust for the Examiner to limit Applicants' claim in the manner in which he has done so. If the restriction requirement is maintained, to obtain coverage of the compounds, which Applicants regard as their invention, Applicants will be required to file countless patent applications, thus placing an unreasonable and unjust burden on the Applicants.

Ex parte Quayle Action is Improper

Applicants respectfully assert that the Office Action as issued on January 23, 2003, was an improper *Ex parte Quayle* action with an improper two month shortened statutory period for reply.

An *Ex parte Quayle* action is only appropriate when an application is in condition for allowance, except as to matters of form, such as correction of the specification, a new oath, etc. (MPEP 710.02(b) and 714.14). Applicants respectfully submit that the amendments that were required by the Office Action as issued on January 23, 2003, were so extensive that they cannot be considered merely formal amendments. Applicants assert that any amendments that would have been presented in accordance with this action would have been so extensive that they would have touched on the merits and thus would have necessitated thorough review by the Examiner.

Accordingly, Applicants respectfully assert that the Office Action as issued on January 23, 2003, was an Office action on the merits and under MPEP § 710.02(b) required a 3 month statutory period in which to respond. If properly issued with a 3 month statutory period for response, the period for responding to the outstanding office action would properly be extendable until July 23, 2003. Applicants respectfully assert that the Examiner improperly issued an *Ex parte Quayle* action and thus, the period for responding to the outstanding Office Action should not expire until July 23, 2003. Therefore, Applicants respectfully request that the Office Action issued on January 23, 2003, be properly identified as an Office Action on the merits with a 3 month period in which to reply which does not expire until July 23, 2003.

Conclusion

Applicants request that the period for response to the outstanding Office Action mailed on January 23, 2003, with a shortened statutory period for reply set to expire two months from the mailing date, be stayed pending a decision on the Petition from Requirement for Restriction under 37 C.F.R. §§1.144 and 1.181 filed by the Applicants on April 3, 2003.

In view of the foregoing remarks, Applicants request withdrawal of the restriction requirement as maintained in the above-identified patent application. Applicants further respectfully request that the Office Action issued on January 23, 2003, be properly identified as an Office Action on the merits with a 3 month period in which to reply which does not expire until July 23, 2003.

Applicants note that if deemed necessary to prevent inadvertent abandonment of the application, the foregoing remarks should be considered as the submission pursuant to a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114.

Please contact the undersigned at (703) 838-6663 if there are any questions concerning this submission.

Respectfully submitted,

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Date: June 23, 2003

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